

# SCIENCE & ART: SO DIFFERENT, SO SIMILAR!

## TRAINING DESCRIPTION FORM

*“A number of summer schools in artsci are emerging. The Spanish artist Margarita Cimadevila runs a highly successful summer school in scenic Santiago de Compostela, which she calls “Science & Art: so different, so similar!”. The attendees are mostly high school teachers from Central Europe who return and integrate artsci into their curricula.”*

Colliding worlds  
How cutting-edge science is redefining contemporary art  
(pg. 346)  
Arthur I. Miller



## TRAINING DESCRIPTION FORM

**TITLE OF THE TRAINING ACTIVITY (in the language of tuition - English):**

**SCIENCE & ART: SO DIFFERENT, SO SIMILAR!**

### TYPE OF TRAINING ACTIVITY

**TYPE OF THE TRAINING:**

- **COURSE (5<sup>th</sup> edition)**

**Previous editions were in the EU Comenius- Grundtvig Training Database with the numbers:**

- S & A 2014. ES-2013-353-002 (second session)
- S & A 2013. ES-2013-353-002 (first session)
- S & A 2012. ES-2011-284-001 (second session)
- S & A 2011. ES-2013-284-001 (first session)

### THEMATIC FIELD OF THE TRAINING

**IN-SERVICE TRAINING IN THE FIELD OF**

- **ART and SCIENCE and CREATIVITY**
- **Sciences: Mathematics, chemistry & physics**
- **Natural sciences, biology and environment**
- **New technologies**
- **Other teachers of sciences and Art**

### LANGUAGES USED FOR THE TRAINING

**MAIN LANGUAGE:**

English

**OTHER LANGUAGE/S USED DURING THE TRAINING:**

Spanish

**LANGUAGE VERSION(S) IN WHICH MATERIALS WILL BE PROVIDED:**

English

### EDUCATION SECTOR OF THE TRAINING PARTICIPANTS

**SCHOOL AND PRE-SCHOOL EDUCATION**

- **Primary**
- **General secondary**
- **Vocational/Technical secondary**

### TARGET AUDIENCE

- **Teachers (Pre-school, primary, secondary, vocational, adult, special needs) Teacher trainers**
- **Head teachers/principals/managers of schools/organizations offering adult education**
- **Members of students/teachers councils in adult education**
- **Other, namely: Museum people, teachers teaching science and/or art, design...**

### INSTITUTION ORGANISING THE TRAINING

**NAME OF THE ORGANISATION:**

IES URBANO LUGRÍS. (PIC Number 949493813)  
Co- organizers ARSCIENCIA, MUNCYT.  
Collaborators: SOTAVENTO, MUSEOS CIENTÍFICOS CORUÑESES, Ayuntamiento A Coruña.

**STREET AND NUMBER:**

Avenida de Arteixo 128

**POSTCODE:**

15007

**TOWN / CITY:**

A Coruña

**COUNTRY:**

Spain

**WEBSITE:**

www.iesurbanolugris.es

**ORGANISER/S OF THE TRAINING:**

**PERSON 1:**

Margarita Lorenzo Cimadevila

**TEL NR:**

0034 699 40 92 70

**FAX NR:**

0034 981 15 40 66

**EMAIL:**

mcimadevila@hotmail.com

**IN THE LANGUAGE OF THE TRAINING: (EN)**

**Preparation** Previous to the course, you are encouraged to visit these web pages in order to get some information about the course:

www.arthurimiller.com  
 www.davideangheleddu.net  
 www.cimadevila.tk  
 www.trettnak.com  
 www.nairucu-arts.org  
 www.sotavento.org  
 www.muncyt.es  
 www.arsciencia.org

The city where THE COURSE WILL BE HELD IS A CORUÑA (www.coruna.es), a friendly and beautiful city, 250.000 inhabitants, close to the sea with fantastic beaches. Its Roman lighthouse, Hercules tower, is a UNESCO Heritage and it has been working for 2.000 years. The place where the course will be held is the MUNCYT (National Museum of Science and Technology of Spain).

Before and during the course we will provide information about this city and two other Galician cities, which we are going to visit (in two cultural trips), and which are also UNESCO Heritage Sites:

- SANTIAGO DE COMPOSTELA (60 km ); both the city and the famous Pilgrim's Way to Santiago are UNESCO Heritage
- LUGO (100km), with the Old Roman Wall, UNESCO Heritage.

**Objectives**

- The training course is an approach to the basic aspects of the relationship between Art and Science. Step by step we will analyze the various ways in which Science may become Art, and how and when Art could influence Science and in the actual fusion of Art and Science to make a Third Culture.
- The main aim for the teachers is to get some hints, which they can use in their Art and Science lessons, in order to convey to their students the idea that both Science and Art are, in a deep sense, very similar and that they are closely related.
- Opening of new links and routes of contact between the participants, thanks to the international dimension of the course. We will observe how different cultures have different artistic forms of expression/interpretation.
- Spreading the culture of Galicia through its triangle of World Heritage Sites, the tower of Hercules in A Coruña, Santiago and the Camino de Santiago (end point of pilgrimage, meeting point of cultures, location of international meetings), and the Old Roman City Wall of Lugo. This also includes its society, traditions, cuisine, current technology, lifestyle, Celtic heritage...
- Finally, yet not less important, contacting of teachers with the same interest in opening new avenues in the fields of science and art and to convey this concern to the new generations. We will encourage the trainees to develop some new projects, when they return home.

**Methodology** The course will begin with an introduction about the relationship between Science and Art. Next we will have lectures about different specific Art forms and their relationship with Science. We will talk in particular about Biology and Art, Literature and Mathematics, Women and Physics, Fishes and Environmental Pollution, Creativity in Science and Art... and some other subjects, which include a revisited view on science models, new architectural visions, keywords in literature and new tendencies such as the so-called Third Culture. A session open for questions will follow each lecture. We will also have visits to the Heritage Cities Santiago and Lugo, to the Aquarium Finisterrae in A Coruña and to the Renewable Energy Park of Sotavento. Different materials about the topics of the course will be provided to the students, and a small library, The Science & Art library, will be available, with books on the topics of the lectures or even written by the lecturers themselves. Workshops will be very important in the course, because here the new ideas and projects between teachers will appear. The trainees will come up with ideas, put forward suggestions and create papers with lesson plans, and we will analyze these proposals together. We have one important part of European dimension in the course: the Social Time, which is important to meet people, to share experiences, to interchange ideas, to speak... The course will be very intensive, trainees will be very busy and they will not have much free time. Therefore the Social Time will allow for interchange. The trainees will cover the form of evaluation (provided by the organizers) of the organization and the quality of the course. It will also include a section in which their personal opinion can be expressed, in order to correct possible mistakes and to enhance those activities, which are most interesting.

**Follow-up**

The organizers will provide, if possible, to the students the lectures and news, photos and events around the course. The trainers will be encouraged to carry out the proposals they submitted during the course, especially in workshops. They will keep in touch with the speakers and the students, being the main idea for them to start their own Erasmus + project

## PROGRAMME OF THE TRAINING ACTIVITIES (DAY BY DAY)

### IN THE LANGUAGE OF THE TRAINING: (Provisional programme)

#### SUN

Arrival and welcome

Visit to MUNCYT (*National Museum of Science and Technology of Spain*)

#### MON

Introduction o to the course.

Participants presentation.

A. Miller: COLLIDING WORLDS: How cutting- edge is redefining comtemporary art.(Official presentation of this new book in Spain!)

S. Mataix: LITERATURE & MATH, A REWARDING ALLIANCE

M. Cimadevila: From CIENCIA EX AEQUO to AVANT-GARDE IN SCIENCE

Official visit to Santiago de Compostela.

Saint Jacques way

Cathedral of Santiago

#### TUE

Official visit to A Coruña

Hercules tower, UNESCO heritage

Aquarium Finisterrae

Coruña walking

Town hall A Coruña

#### WED

W. Trettnak/ M Cimadevila: PLASTIC FISHES and MARE PLASTICUM

D. Anghelddu: SCIENCE AS INSPIRATION THROUGH TECHNOLOGY

M. Bianchi: (Workshop1): ART & SCIENCE - A WAY TO PROMOTE UNDERSTANDING KNOWLEDGE AND CREATIVITY AT SCHOOL

M. L. Martínez: PLANCTON & ART ( through the electron microscope)

#### THU

SOTAVENTO, Renewable Energy Park

Self-sufficient energy house / renewable energy

Hydrogen plant / wind turbines

Visit LUGO

Roman Old City Wall, UNESCO heritage

Cathedral

Official visit Lugo

#### FRI

ARSCIENCIA

InvestigArte

W. Trettnak: LUMEN, LUMINIS

M. Bianchi: FROM DESCRIBING TO REINVENTING REALITY, A NEVER-ENDING FASCINATING STORY

Workshop 2: ART & SCIENCE - A WAY TO PROMOTE UNDERSTANDING KNOWLEDGE AND CREATIVITY AT SCHOOL.Presentation of works for the participants

#### SAT

Conclusions

Evaluation of quality of the course by questionnaires and Certificate award

#### SPEAKERS:

DAVIDE ANGHELEDDU. Architect, artist, teacher of Digital Representation at the Polytechnic of Milan. Italy

SUSANA MATAIX. Mathematician, Master in Business Administration, science magazine writer. Spain

ARTHUR MILLER. Physicist, writer, Emeritus Professor of History and Philosophy of Science at University College London. UK

MARILENA STREIT BIANCHI. CERN. Biologist and art promoter. Switzerland

WOLFGANG TRETNAK. Chemist , artist. Austria

Mª LUISA MARTÍNEZ LORENZO. Oceanographer. Unit scientific culture CSIC (Scientific Research Center) of Galicia.

MARGARITA CIMADEVILA. Chemist, painter, ARSCIENCIA president, teacher at High School Urbano Lugo.

ORGANIZER. Spain

ARSCIENCIA

InvestigArte

## TYPE OF CERTIFICATION OF ATTENDANCE AWARDED

**CERTIFICATE OF ATTENDANCE** (English):

**EUROPASS**, (you have to send it to us in advance)

## INFORMATION ON COURSE SESSION/S

### SESSION 5- 2015

**DATE OF START:** 05/07/2015

**TIME OF START:** 20:00

**DATE OF END:** 11/07/2015

**TIME OF END:** 16:00

**Deadline for registration:** 15/05/2015

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### SESSION 6- 2016

**DATE OF START:** 03/07/2016

**TIME OF START:** 20:00

**DATE OF END:** 09/07/2016

**TIME OF END:** 16:00

**Deadline for registration:** 15/05/2016

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**HOST INSTITUTION EQUAL TO ORGANIZER INSTITUTION:** NO

**NAME OF ORGANIZER INSTITUTION:** IES URBANO LUGRÍS. (PIC number: 949493813)  
Co-organizers: ARSCIENCIA, MUNCYT.  
Collaborators: SOTAVENTO, MUSEOS CIENTÍFICOS CORUÑESES, Ayuntamiento A Coruña.

**ADREES:** Avenida de Arteixo 15, 8ºB  
**POSTCODE:** 15007  
**TOWN / CITY:** A Coruña  
**COUNTRY:** Spain

**NAME OF HOST INSTITUTION** MUN CYT  
*National Museum of Science and Technology of Spain*

**ADREES:** Plaza del Museo Nacional, 1  
**POSTCODE:** 15011  
**TOWN / CITY:** A Coruña  
**COUNTRY:** Spain

**CONTACT PERSON FOR THIS COURSE SESSION, NAME:** Margarita Lorenzo Cimadevila

**TEL NR:** + 34 699 40 92 70

**FAX NR:** + 34 981 15 40 66

**EMAIL:** mcimadevila@hotmail.com

**IDENTIFICATION OF THE TRAINER/S: NAME, PROFESSIONAL QUALIFICATION, ROLE DURING THE TRAINING:**  
Margarita Cimadevila. Painter, Head of department of Physics & Chemistry of IES Urbano Lugrís, ARSCIENCIA president, High School Teacher.

**MAXIMUM NUMBER OF PARTICIPANTS ENVISAGED:** 50

**FEE IN € FOR ACCOMMODATION AND MEALS :** 540 (Accommodation & all meals)

**COURSE FEE IN € (tuition and materials):** 490

**CANCELLATION FEE IN € (WHERE APPLICABLE):** 0

**PROVISION FOR SPECIAL NEEDS:** No

Hotel for accommodation & meals: Hotel Riazor in the city center by the seafront, [www.riazorhotel.com](http://www.riazorhotel.com)

### **SPECIAL REMARKS:**

The course will take place with a minimum of 15 people. This is a provisional program. The assistance of the speakers and the topic of their lecture is always subject to their agenda, so there may be last minute changes. The final program will be sent to applicants during June

